Alternative G
East Side Foothills Conveyance

General

This alternative will construct a new conveyance facility along the foothills of the eastern edge of the Sacramento and San Joaquin Valleys. The new conveyance facility will originate at a diversion on the Sacramento River upstream of the confluence of the Sacramento and Feather Rivers. The facility will also have diversions from the Feather River and another on the Sacramento River near Hood. The conveyance facility will travel south along the foothills and terminate on the Tuolumne River. A cross valley connection will be made from the conveyance facility to the Delta-Mendot Canal and the California Aqueduct near the south Delta export facilities.

The general operation of the new conveyance/diversion facility will be to capture the falling limb of high flood flow hydrographs and convey them to southward along the foothills where the water can be supplied for groundwater recharge and in-lieu of stream diversions. Water will also be conveyed to the Delta-Mendota Canal and the California Aqueduct replacing much of the diversions from the south Delta. Existing surface water storage would be relied upon to manage some shifts in diversions from the March through June period to the a late fall to mid-winter period when fish are less vulnerable to diversion affects. The relocation of diversions to the Sacramento or Feather Rivers will also lessen the impacts on fisheries. New Diversion facilities will be equipped with state of the art fish screens.

Water from the Sacramento Valley will be provided to San Joaquin Valley for agricultural uses and groundwater recharge in conjunctive use areas. The operation will free-up water from the Mokelumne, Stanislaus, and Tuolumne Rivers which will be used for in stream habitat improvements and for improving central and south Delta flow and environment conditions.

Operation of Conveyance System

A new conveyance system will be constructed to convey water along the east side of the Sacramento and San Joaquin Valleys. This conveyance system will originate on the Sacramento River, above the confluence of the Sacramento and Feather Rivers, and at the Thermalito Afterbay and terminate on the Tuolumne River. An cross valley intertie will be construct from the east side conveyance facility to the export facilities in the south Delta. The conveyance capacity of the east side facility will be 7,000 to 8,000 cfs. Interties to existing east side conveyance projects (i.e. Mokelumne and Hetch Hecthy Aqueducts) will also be constructed.

- Water will be conveyed through the east side facility to supply eastern San Joaquin Valley conjunctive use projects and local agricultural water users. This facility will allow for the development of an exchange program where water provided for the above uses is replaced with water from surface or groundwater storage. Surface water would be used primarily for

in-river and in-Delta environmental needs and groundwater would be used primarily for below average flow years to replace surface water diversion.

- A portion of the south Delta export demand will be met from diversions made through the new east side conveyance facility. This high quality water will be delivered the Delta-Mendota Canal and the California Aqueduct to improve the overall quality of water exported by the CVP and SWP.

- The east side conveyance facility will be operated as the primary source of fill water for San Luis Reservoir and other reservoirs associated the California Aqueduct. This will significantly reduce the amount of water diverted from the south Delta and increase the water quality of CVP and SWP south of Delta storage.

- Interties will be constructed with existing east side conveyance projects (i.e. Mokelumne and Hetch Hetchy Aqueducts) to provide water during above average years and when water quality is acceptable to these projects. Water will be provided in exchange for like amounts of water for in-river and in-Delta uses.

Operation of New Diversions

Diversions will be made to capture flows above those required to maintain the environment on the Sacramento and Feather Rivers and in the Bay-Delta estuary. Diverted flows would be conveyed through the foothills on east side of the Sacramento and San Joaquin Valleys to groundwater recharge areas in the San Joaquin Valley, to agricultural users in the San Joaquin Valley, and to the Delta-Mendota Canal and the California Aqueduct.

- A diversion on the upper Sacramento River will be located above the confluence of the Sacramento and Feather Rivers. Another diversion from the Feather River will be located at the Thermalito Afterbay. The combined capacity of these diversions will be 7,000 to 8,000 cfs.

- A new diversion from the lower Sacramento River will be located near Hood and linked to the foothill conveyance facility to provide additional water for use in the Delta-Mendota Canal and California Aqueduct.

- The diversions would only take place when river flows exceed the flow required to protect the environment of the Sacramento and Feather Rivers and the Bay-Delta estuary.

- Diversions from either location on the Sacramento River or from the Thermalito Afterbay will replace a portion of the south Delta export demands. To the extent possible, with existing storage facilities, diversions for south Delta exports will be shifted from the June through March period. There is limited flexibility for accomplishing this, however, due to the lack of additional storage associated with this alternative.

- Diversions will be made as possible to offset local diversions from Mokelumne, Stanislaus, and Tuolumne Rivers for agricultural uses. Water provided for this use in San Joaquin Valley will be replaced will like amounts of water from local reservoirs for in-river and in-Delta uses.

- Water will be diverted into in-Delta storage during November through January to minimize impacts to Delta aquatic species. There will be multiple diversion intakes into this Delta island storage facility to further minimize impacts to fish.

Operation of New and Existing Storage

The new storage associated with this alternative is in-Delta storage which will be used primarily for in-Delta environmental purposes. Operations of existing reservoirs on the east side of the Sacramento and San Joaquin Valleys will be modified to increase releases from Mokelumne, Stanislaus, and Tuolumne River reservoirs for in river uses and central and south Delta uses. Storage will be operated in the follow manner.

- Existing south of Delta storage, primarily west side and southern facilities associated with Delta export facilities, will be filled from diversions during the falling limb of high flow events on the Sacramento and Feather Rivers.

- Water in excess of carry-over needs in Sacramento Valley project reservoirs at the end of the operational year, typically September, will be transferred through the east side conveyance facility to be stored as groundwater or in surface water reservoirs such as San Luis Reservoir. Transferring this excess water would increase flood control storage space and help to regulate and reduce the occurrence of spills at project reservoirs.

- Water developed through exchange, from agricultural deliveries or deliveries to existing east side projects, will be held in local storage facilities on the Mokelumne, Stanislaus, and Tuolumne Rivers. This water will be released as pulse flow water to aid the movement anadromous and resident fish species, and for Delta water quality objectives. These exchange programs allows more water to be released from the San Joaquin Valley to meet the objectives of the 1995 Salinity Control Plan for the Bay-Delta.

- During above average flow years, or when south of Delta storage is full, water from diversions will be used to recharge groundwater basins in conjunctive use and banking areas along the east side of the San Joaquin Valley, and the southern San Joaquin Valley and Tulare Lake Basin. Water stored in these basins will be utilized during below average years to reduce the amount of exports from the Sacramento Valley and the Delta. A reduction in export will free-up water for environmental flows during these natural reduced flow periods.

- Water stored in the new in-Delta island storage facility will be released from March through July, as needed, to: 1) improve fish transport through the Delta, particularly during periods of south Delta exports; 2) improve management of the X2 standard; 3) improve water quality in the south Delta; and 4) to provide water for export at the south Delta pumping facilities.

Operation of Water Developed Through Conservation

Water developed through urban best management practices (BMP's) and agricultural efficient water management practices (EWMP's) will be used for a combination of water supply and environmental benefits, depending on the basin in which the water is developed.

- Water developed through implementation of agricultural EWMP's in the San Joaquin Valley will be used primarily to provide additional flows on the San Joaquin River and in the south Delta to improve water quality and the environment.

- Retirement of marginally-productive agricultural lands that contribute substantially to in stream water quality problems in the San Joaquin River will free up water that can be held in storage, released, or transferred to improve water quality and fish transport.

- Water developed through implementation of agricultural EWMP'S in the Sacramento Valley will be used primarily to augment water supply availability.

- Water conserved through urban wastewater reclamation (100,000 to 200,000 acre-feet) will be used to offset urban demands within the regions where the water was reclaimed. Reclaimed water could be used as grey water for landscape irrigation purposes, recharging groundwater which could be used for below average flow periods, for agricultural uses, or for potable or non-potable urban use.

Operation of Water for Fish and Wildlife Uses

Water developed for fish and wildlife purposes will be in the most efficient manner possible to enhance fish and wildlife habitats in the Sacramento and San Joaquin Valley and the Bay-Delta estuary.

- About 100,000 acre-feet of water will be purchased from willing sellers in the San Joaquin Valley. This water will used to aid in the transport fish through the Delta, particularly during periods of south Delta export operations, and to improve water quality in the south Delta during periods of low Delta inflows from the San Joaquin River.